• HEALTH •

EDITED BY

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Notes by the Way

"Health is the foundation of all our physical happiness."—*Herder.*

A CORRESPONDENT, who has recently returned to England after an absence of many years, remarks that he has been surprised to find gas in almost universal use for heating purposes. He finds gas-stoves in general use, gas-fires in rooms, and gas in the kitchen as a means for cooking. We are asked whether or not the use of gas in houses to such an extent is injurious to health. Our correspondent adds that opinions vary very much on this point, and he is perfectly correct in saying that the question is an important one from a health-point of view. Its solution is, however, easy. Where gas is used, the safety of health simply depends on securing full, free, and perfect ventilation. The necessity for this precaution is highly apparent, when we think of the impurities which gas sends forth into the atmosphere; and when we reflect on the evil which is wrought to health when these impurities are inhaled. If we can be assured of the ventilation of houses in which gas is employed, there need be no hesitation in employing this medium for any domestic purpose. It is, however, doubtful if we have yet reached that stage of sanitary progress wherein such ventilation is possible. Even in our apartments, where gas forms the illuminating medium, there is often a decided lack of precautions in securing the free and perfect removal of the deleterious products of gas-combustion.

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IN a letter to the *Pall Mall Gazette*, "C. M. D." writes regarding the drink of the poor. He propounds the question:—

> What shall be the drink of the poor in those vast areas of our large towns where pure water and good milk are just the most difficult things to procure, and where the public-house is the only present guarantee for a supply of fairly wholesome drink?

His subsequent remarks are interesting enough to be quoted in full:—

> In considering this question, together with the amount spent on drink, it should not be forgotten that all drink but water must be paid for, and that in the poorer districts of most large towns water is not only scarce, but at certain seasons of drought or frost it is either wholly cut off from millions of people, or highly dangerous in its character; and as drink of some description is as necessary as solid food, a large proportion of income must be spent either on coffee-house tea and coffee, aërated waters, or fermented liquors. The people know that many outbreaks of fever have been traced to cheap aërated waters or impure milk; they know equally well that good Burton beer, for instance, is made from the finest water, and has passed through processes which render it a perfect aseptic. The *Medical Times* of Oct. 20 describes beer as the "ideal drink" for the poor, "both economically and physiologically a drink combining so many useful qualities that nothing can be provided at the price that is at all likely to supersede it." In the medical report of the late outbreak of fever in North London it is pointed out that where beer-drinkers and milk-drinkers were of the same household the milk-drinkers suffered while the beer-drinkers all escaped. Under these circumstances it appears inevitable that the poor shall insist upon a supply of fermented liquor, and prefer to spend their money in that way; and, until good water and good milk are brought to every door, it must be a distinct advantage to the public health that houses shall be within reach where the poor can procure good fermented liquor in small quantities without incurring the expense and temptation that the possession of a large quantity at home would entail. The present object to be attained is, therefore, not the suppression of licences to sell small quantities, but to so regulate the conduct of the houses that the weak and ignorant shall not be tempted either to spend too much or to remain too long.

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THERE may be, and very likely is, truth in the foregoing remarks concerning the immunity of beer-drinkers from typhoid fever as compared with milk-consumers; but "C. M. D.'s" argument seems to us a highly dangerous one, and one founded, moreover, on slightly mistaken grounds withal. The necessity for beer cannot be admitted by any physiologist to begin with. The cost of beer as compared with milk is very great, and the nutritive qualities of beer will not bear comparison for a moment with those of Nature's own typical food. Again, to argue that any fermented liquor can be a substitute for good water and good milk may be permissible, if water and milk respectively were always tainted with impurities. The wiser course is that of showing merely that where water and milk are to be suspected of containing fever-poison, beer might then be taken as a beverage, and, possibly, as a means of avoiding disease. But, unfortunately, the further argument that the public-house is an ark of safety in such a contingency, is one that is likely to open the door only too readily to excess. We fail to follow "C. M. D." in his contention that because beer may be occasionally useful as he describes, this fact is to be used in support of the continuance of public-houses. We say this, while uncommitted to teetotallism; and our remedy for bad water and bad milk is a simpler one than that propounded by "C. M. D." When either is suspected of being impure, rigid attention to the perfect boiling of the liquid in question will be found an effectual preventive of any diseased action. When we remark also that the beer sold in public-houses is, in a large proportion of cases, anything but "good Burton beer," we have said enough to show that "C. M. D.'s" proposition is more ingenious than salutary in its nature.

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SOME highly curious statements have recently been made regarding the culture or strengthening of the voice by chemical means. Dr. Carter Moffatt recently detailed in Glasgow his ideas and practice regarding this subject. He claims that the peroxide of hydrogen possesses the power of improving the quality and tone of the voice; his contention being that as this compound is a prominent constituent of the air and dew of Italy, "the home of song," its effects may possibly be witnessed in the high development of the vocal organs of that country. Of course, the considerations of race and heredity require to be taken into account in such an argument; but it is possible that atmospheric conditions, which possess such marked effect on human health, and especially on the lungs,

may play an important part in voice culture. Dr. Moffatt showed in his own person, and in others, the effects of inhaling a compound supposed to represent Italian air, and demonstrated that by this means the tones of the voice could be modified and changed in a remarkable degree. The outcome of such a theory of voice-culture may involve some startling departures from the ordinary ways and means of vocal education. It will certainly be a startling innovation if, in the near future, we may find the chemical laboratory becoming an adjunct to the class-room of the professor of singing and elocution. It is needless to add that the musical profession and public at large will wait with interest for further information regarding Dr. Moffatt's theory and practice. We shall have something to say regarding peroxide of hydrogen in our next issue.

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AT the Academy of Medicine of Paris M. Sandras gave very distinct utterance to his views regarding the treatment of chest-complaints by inhalation. He argued that to treat colds and allied troubles by giving drugs to be swallowed is, at the best, an unsatisfactory and roundabout method of treatment, seeing that any medicinal substance which passes into the stomach requires to pass into the circulation and to reach the lungs by means of the blood. Turpentine and tar, according to M. Sandras, are the best remedies for application by inhalations. By means of an inhaler his treatment is readily carried out. This instrument consists of a bottle or jar, through the cork of which pass two tubes. One of these is the inhaling tube, and to this an india-rubber mouth-piece is attached, the lower end of this first tube being made to rise clear of the liquid in the flask. The second tube opens into the air above, but its lower end dips into the fluid below. The jar is then half-filled with a fluid consisting of a mixture of chloroform ether and turpentine; or, as another inhalation, 100 grammes (a gramme nearly equals 16 grains) of turpentine may be poured on 20 grammes of Norwegian tar. Either mixture is to be inhaled three times a day for five minutes at a time, and at the rate of from 15 to 20 inspirations a minute. It is said that this simple treatment is of immense value in the cure of coughs and their attendant troubles.

THE INTERNATIONAL HEALTH EXHIBITION.—In response to the appeal of the Lord Mayor, based on the suggestion of his Royal Highness the Prince of Wales, the following Livery Companies have subscribed towards the expenses of the forthcoming International Health Exhibition at South Kensington, namely, the Grocers' Company, £1,000, with a guarantee of £2,000; the Clothworkers', £200, and a guarantee of £300; the Fishmongers', £200, and a guarantee of £400; the Goldsmiths', £200; the Salters', £200, and a guarantee of £200; the Wheelwrights' Company, £100, and a guarantee of £1,200; the Dyers' Company, £105; the Joiners', £105, and a guarantee of £210; the Merchant Taylors', £105; the Saddlers', £105, and a guarantee of £210; the Skinners', £105, and a guarantee of £105; the Spectacle Makers', £100; the Coachmakers', £31. 10s. and £63; and the Horners', £25. The authorities of the Exhibition have been, it is understood, retarding their announcement of the formation of the general committee, in the hope of including the appointed representatives of the Guilds, but it is hoped that within a short time the remaining companies will have had an opportunity of meeting and coming to a decision as to their donations before the lists are finally closed. The Corporation, it may be added, have subscribed £5,000, and guaranteed £10,000, and their donation has already been paid over to the authorities.

Original Essays

"Life is not to live, but to be well."—*Martial.*

RECENT IMPROVEMENTS IN MEDICAL ELECTRICAL APPLIANCES.

IN the present rapid march of electrical discovery and invention, when every year adds some valuable instrument to the list of means for generating and applying electricity to unnumbered ends, it is interesting to note that medical electricity is not being left to struggle hopelessly in the rear. In recent numbers of HEALTH one of our contributors, Mr. Lant Carpenter, has given a valuable series of papers, pointing out, amongst other information, the worthlessness, from a physical point of view, of many "appliances." But negative commandments alone, constitute only a portion of dogmatic morality, and in addition to a warning notice board it is useful occasionally to plant a finger-post to mark a permissible path. We have had brought to our notice some new forms of apparatus intended for medical use, which promises a fresh departure, and we have illustrated them for the benefit of our readers. We called

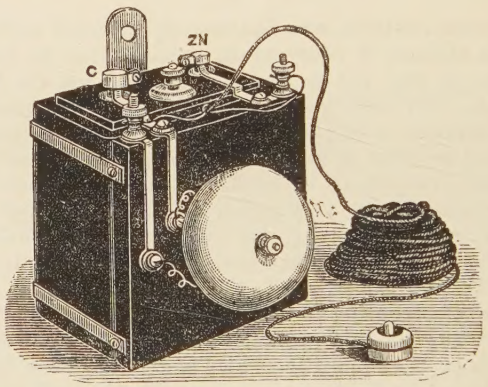

Fig. 1.—Call Bell and Battery.

attention some time back to a combined sealed battery and call-bell of novel form intended for invalids (see Fig. 1.) which is manufactured by the British Insulite Company, and it is to the enterprise of this same company that we are indebted for these new medical batteries.

Hitherto it has been found a great inconvenience that no form of medical battery can be sent about with its exciting fluid charged and ready for use. The small Leclanché cells generally used are only stopped with pitch, and are filled by surgical instrument makers, who fit them up in elaborate cases.

They can only with great precautions be sent to patients in the country, for whom electric treatment is prescribed. In addition to the direct galvanic currents, continuous or rendered intermittent, it is common to use what is called a Faradic current, in which a rapid series of short currents is given by means of an induction or intensity coil. To work it, however, requires a battery, and the one in common use is the "Bichromate" battery. This, however, rapidly exhausts in use, and needs refreshing by a dose of dilute sulphuric acid and bichromate of potash. If the zinc plates of this battery are left in, they rapidly corrode.

Most medical practitioners and private persons are too busy to take trouble with batteries, cleaning and recharging them; and the usual experience is, that after once or twice using a newly-purchased and, perhaps, expensive coil, it declines to perform on the next occasion, and the user rele-

gates it to the list of those things which act very well in the shop, but will not act when you get them home.

A fundamental requirement is, therefore, a battery-cell which is sent out ready charged, and which needs no messing with chemicals or filling up with water to make it act, but which is always clean and instantly available. This we have in the Insulite Sealed Cell, illustrated in Fig. 2.

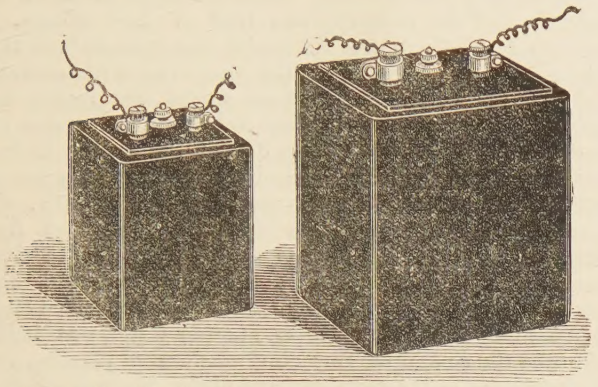

Fig. 2. Insulite Sealed Cells, for constant medical currents.

It is a small box or cell of insulite, having a zinc and carbon rod protruding through the lid, and terminated in nickel-plated screws. A small tin cap is also seen, which, when screwed down, hermetically closes the cell, but which, when unscrewed, affords escape to generated gases. The chemicals with which it is charged are harmless and non-corrosive. The height of this little cell is $4\frac{1}{2}$ in.; its breadth, $2\frac{1}{2}$ in.; and its width, 2 in. Sets of these are joined up in series, and arranged in boxes of 6, 12, or any number. The great claim of these cells to notice is that, besides being very constant and affording a smooth, gentle current, they are sent away ready for use. If, then, a practitioner prescribes galvanic treatment, the exact number of cells required can be packed in a simple box and sent off charged. In many cases such treatment

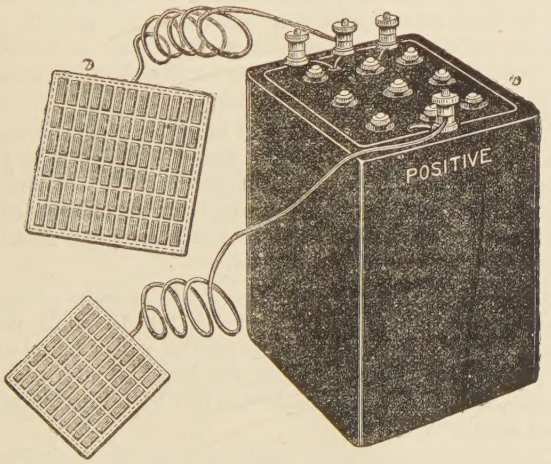

Fig. 3.—Set of Nine Tubular Medical Cells for constant current.

is out of the question from the expense of existing apparatus. What the patient requires is the means of getting the electric current at any hour of the day or night without trouble, and he does not generally desire to pay for an elaborate mahogany box, covered with an eruption of brass binding screws and handles. But, although these cells are admirable for stationary use, they are a little too large to be easily portable in large numbers. Hence the inventor of these cells has devised a still smaller and simpler arrangement, which is called the Tubular Medical Battery. It consists of a tube one inch in diameter and five inches long. Nine of these cells are packed in a small ebonised case, and these sets of nines can be made up in boxes of 18, 27, 36, &c., cells. These cells cannot slop or spill. Fig. 3 represents one set. This is perhaps the most compact and lightest medical battery yet introduced. Our electrical readers will understand what is meant by the statement that each cell of this kind has an electromotive force of a little more than one volt.

Hence a set of 54 of these cells, which constitutes a most powerful medical battery, occupies a space only of 12 inches long, 7 inches high, 8 inches wide, and a set of 18 can easily be carried in the hand.

There is one other battery on a still smaller scale which is a marvel of compactness. It is a pocket battery consisting of four cells, in a case about the size of a pocket-book (see Fig. 4). This little battery can, with the proper

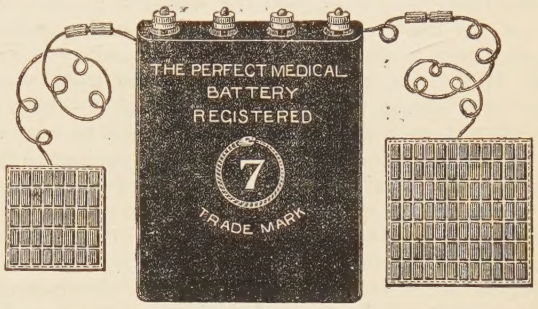

Fig. 4.—Pocket Medical Battery of Four Cells. Constant Current.

electrodes, pass a most unmistakable current of electricity through the body. It can ring a bell, and, if attached to a small voltameter, it decomposes water freely. If passed through a resistance to prevent too great flow, a battery of this description will decompose water slowly for eight weeks without cessation, thus proving its great constancy.

(To be concluded.)

STORIES OF SCIENCE AND CRIME.

FOURTH PAPER.—IDENTIFICATION BY LIGHTNING-FLASHES, &c.—CASES OF FASTING.

SOME curious and highly-interesting questions have occasionally been propounded in our courts of law regarding the limits of human sight, and the possibility of identifying persons or things in a very short space of time; as, for example, where identification of a criminal has been alleged to have taken place during a lightning-flash, or by aid of the flash of a pistol-shot. It has been estimated that, as regards the distance at which a person of ordinary height can be seen on level ground, about three and a half miles—assuming the day to be clear—from the limits of ordinary healthy vision. By clear moonlight, a person well known to the observer, can be recognised when standing sixteen to seventeen yards off, but recognition, even at that distance, may not be accurate, and much depends, of course, on the clearness of the light.

The possibility of identifying a person during a flash of lightning has frequently formed a moot point in criminal cases. A lady voyaging from India saw by aid of a lightning-flash, and was able to identify, a man who had entered her cabin in the night, and was engaged in robbing her trunk. Dr. Tidy tells us that in many cases, though not in all, a flash of lightning will enable a person to see and identify even minute objects. On one occasion

he saw a black hair-pin on the ground during a lightning-flash, and was able to pick it up by the light of the next flash. At the Thames Police Court in August, 1876, a sergeant of police swore that he saw three lads abuse an old man, and that he recognised them during a brilliant flash of lightning which had occurred during the assault. On this evidence, the police-magistrate committed the prisoners for trial.

The flash of firearms has often been relied upon as affording means and opportunity of identification. Several instructive cases have been placed on record wherein such evidence has been accounted of worthy kind, and where experiment has proved the possibility of recognition being effected. A French case illustrates this point. A gentleman, the Sieur Labbé, accompanied by a Madame Beaujean, was riding along a high road in May, 1808. The moon had not risen. A gun was fired through a hedge, the shot striking the servant of the Sieur Labbé in the hand. The persons swore they recognised the would-be assassin by the flash of the discharge, and the prisoner, on this testimony, was sentenced to death. He appealed, according to French usage, to the Court of Cassation, and the matter was referred to a committee of experts, by way of deciding the possibility of such recognition as was alleged to have taken place. The decision of the experts was against such probability. They maintained that the light was so transitory and weak, that it was scarcely possible to see the shape of a head, while the face could not be recognised. The sentence of death was reversed in accordance with this view; but subsequent experiments, arising out of another case of like nature to that of the Sieur Labbé's servant, showed that, as is now held by medical jurists, it is possible, under favourable circumstances, to identify a person by the light of a pistol or gun-flash. In England a gamekeeper, in 1862, identified his assailant by such means, the prisoner in this case being convicted. In 1799 the well-known case of Paris and Fonblanque excited attention on account of the evidence of a policeman that the highwayman rode a horse of dark-brown colour, with remarkable head and shoulders, while the rider was said to have worn a rough, brown overcoat. These features he had been able to see clearly by aid of the flash of his pistol.

Passing now to deal with a different topic, we come to the interesting question of starvation, and to the possibilities of life being preserved for long periods in the absence of the ordinary diet. The cases of alleged starvation which attract public notice in a high degree are those of "fasting girls" and like subjects. A suspicion of fraud naturally attaches to such cases, for the plain reason that, as we know the body is always wasting as the result of life and work, so must it be renewed through the food demanded by life's laws. One of the fasting cases which attracted much attention and excited no little excitement was that of Sarah Jacob, the "Welsh Fasting Girl." This girl was born in 1857, and in 1867, after an illness, abstinence from food for longer or shorter intervals was said to have been practised. From October, 1867, till her death, which occurred December 17th, 1869, it was alleged she took no food whatever. One feature of this case at once made it assume a suspicious look in the eyes of all sensible persons, lay or medical—namely, that during her entire "fast" she continued plump, and even gained flesh! A strict watch was kept on the girl, however, during the last week. The cognisance of her case began at 3 p.m., Dec. 9th, her death taking place at 3 p.m. on the 17th. For seven days, therefore, this unfortunate girl was really starved; and the result showed clearly enough that when means were taken to prevent fraud, the natural end of things was duly arrived at. The parents, who must, of course, have been cognisant of the danger to which they were exposing their child by consenting to the scientific watching of her case, and through not supplying her with food and ending the deception, were justly sentenced at the Carmarthen Summer Assizes of 1870, the father to twelve months' and the mother to six months' imprisonment.

An equally famous case, which occurred towards the beginning of the century, was that of Ann Moore, of Tutbury, in Staffordshire. A report was spread about that this woman, a person of middle age, lived without food; and a watch being set for three weeks, the result was believed to prove this statement to be true. She was extremely thin, and it was alleged that her dislike to food arose from her having washed the clothes of a person suffering from some form of ulceration. Naturally, the fame of the Tutbury wonder spread abroad, and Ann Moore's house became a kind of show-place. She received numerous donations, and was able to invest a considerable sum of money in consequence of the receipts derived from her visitors. In 1813, however, another watch was held; this time the committee consisting of educated persons, two of whom were in the room day and night. She was weighed daily, with the significant result that weight was found to have been lost each day. When the ninth day arrived, Dr. Fox found the patient in a state of collapse. He informed her that she would surely die if she did not take food; when she consented to sign a written confession, detailing her imposture, and admitting that she had occasionally taken nourishment for the last six years. The means she had employed in the deception of the first watching committee were ingenious enough. When her daughter washed her face she used towels soaked in milk, gravy, and other fluids; and when the daughter kissed the mother, each kiss was made the means of conveying sugar into the mouth of the impostor.

Soil-pipes extended above the roof should be left entirely open, with no return bend or cowl; a wire basket may be used where sticks or leaves might get in. The diameter of the part above the roof should be increased, especially the smaller waste-pipes, as the friction of air is comparatively much greater in them.

For the drain-pipes inside the house no material should be allowed that cannot give a water and air-tight joint. Outside the house the danger from leaky pipes is not so great, and vitrified pipes are generally good enough in the latter case. Inside of the house the large pipes should be of iron and the small ones of lead.

Population of Japan.—The last census (January, 1883) gives a total population of 36,700,118 souls, nearly equally divided between the sexes, the males being about one per cent. in excess. Kioto, the imperial city, contains 709,000, and Tokio, the capital, 1,064,000 inhabitants in round numbers.

Sanitary Inspections.—Fee for Survey and Report, in London, 2 Guineas. Estimate given and Improvement Works carried out when required.—The Sanitary Engineering Co., 115, Victoria-street, Westminster, S.W.—[Advt.]

West Green, Tottenham, West Green College for Ladies.—The Principal, Miss Bristed, A.C.P., receives young ladies to board and educate in a thorough English education. Good schoolroom, furnished with all improvements in lighting and ventilation. Separate Swedish desks. Scientific gymnastic classes held twice a week. The pupils' studies are varied by frequent change of occupation and physical exercise. Miss Bristed's pupils have been very successful in the local University examinations. Good garden and tennis-court. Prospectus on application.—[Advt.]

Personal Health

"Be timely wise;
With health all taste of pleasure flies."—*Gay.*

THE DECLINE OF COFFEE-DRINKING.

A LARGE audience recently assembled at the Parkes Museum, to hear a lecture by Dr. G. V. Poore, Professor of Forensic Medicine in University College, on "Coffee and Tea." Sir Henry Thompson was in the chair. The lecturer, after expressing his belief that stimulants, both alcoholic and alkaloidal, had their uses, proceeded to contrast coffee and tea. Both, he observed, contained the same alkaloid, which had been called thein or caffein, according to its source of origin, and the effects produced by coffee and tea were almost identical. The cup of coffee, provided it were genuine, contained more alkaloid than the cup of tea, and owing to the absence of tannin the action of coffee was more rapid than that of tea. The specific gravity of a cup of tea was about 1003, that of coffee 1009, and of *café au lait* sweetened 1035. Tea was more of a pure beverage than coffee, and hence it was possible to use it as a mere luxury, as it demanded scarcely any digestive effort from the stomach, and did not "cloy" the palate. The danger of excessive tea-drinking lay mainly in the large amount of astringent matter, which was a potent cause of dyspepsia among women of the sempstress class, who consumed enormous quantities of common tea, which they not unfrequently boiled. When a stimulant was required by the body, the lecturer recommended a strong cup of coffee; if it were desired to wean the drunkard from his spirits, he thought that a real stimulant ought to be provided in their place, and not the sickly, bitter, unwholesome compounds which were allowed to be called coffee in this country. In order to make good coffee, the coffee-berry ought to be fresh roasted and ground. There ought to be no difficulty in getting fresh roasted coffee in London, and the lecturer stated his belief that there was an opening in this direction for enterprising tradesmen. There was no difficulty whatever in roasting coffee, and it ought to be part of the daily routine of every well-regulated house. The next step in the making of good coffee was to use enough coffee—1 oz. of coffee to a pint of water was barely enough, but 1½ oz., or 2 ozs. to a pint made first-rate coffee. The elaborate coffee-machines might be convenient, but provided the coffee were pure they were by no means necessary. If the coffee required for breakfast were put into a common earthenware jug over-night, and cold water poured upon it, it might be heated to boiling point in the morning by being stood in a saucepan of water over the fire. In this way any violent ebullition was avoided, the aroma was preserved, and the maximum extract was obtained from the coffee. The grounds, if the coffee were pure, occasioned no inconvenience, but if starchy pultaceous rubbish were used instead of genuine coffee, then elaborate coffee-filters became necessary. Chicory and the allied bodies, which were largely used as adulterants for coffee, were in no way substitutes for coffee, since they contained no alkaloid and had no stimulating properties. Out of 90 samples of ground coffee purchased in London shops only five were found to be genuine, so that those who purchased ground coffee were likely to be defrauded. The coffee-mixture gave an infusion of much higher specific gravity—1020-1023—than genuine coffee, and tended to derange the stomach and cause dyspepsia. The colour of coffee-infusion was no indication of its strength, and many of the black coffees owed their colour to caramel. The consumption of coffee in this country was steadily declining, a fact which was, he thought, largely due to the mistaken policy of the Government, who had placed the chicory and dandelion on a level with the aromatic coffee-berry. Coffee ought to be protected from adulteration, and he thought the temperance-party would be doing good work if they seriously took the matter up, and tried to protect the poor man from unscrupulous tradesmen who adulterated his coffee with all kinds of vegetable materials. Several gentlemen, who spoke from practical experience, confirmed the opinion expressed by Dr. Poore as to the proper way of making coffee. It appeared also from statements made that the greater part of the finest coffee grown was not only sold in England, but purchased by English tradesmen, so that there was no reason on that score why coffee in England should not be better than on the Continent or in the East.

SHIP SURGEONS.

IN connection with Dr. Stone's recent article on "Ship Surgeons," in HEALTH No. 37, the following letters addressed by Dr. Irwin to the *British Medical Journal* will be perused with interest:—

From a recently-published Parliamentary Report may be learned the following facts. No less than 140 medical officers, approved by the emigration officer at the port of clearance, were entrusted, on different voyages, with the sole "medical charge" of 108 steamships, which, during the six months ending June 30, 1882, carried emigrants from Great Britain to the United States and Canada. Of these gentlemen, eight possessed no qualification which would entitle them to practise in the United Kingdom; while of 132 remaining, 35 held but a single diploma—29 as surgeon alone, three as physician alone, and three as apothecary alone. Forty-six are reported as being 25 years of age or under, and 19 as being 23 years of age or under. Of the latter, 11 possessed but a single qualification. Of these 132 medical officers, *but* 24 *possessing any qualifications as a physician and surgeon had reached their thirtieth year.* Such facts need no comment. Certainly they go far to prove—there being nothing exceptional during the period named—that these officers "are appointed without due regard to age, qualification, or experience;" and that "comparatively few medical officers in every way suitable can be found in the mercantile marine medical service."

In a second letter, Dr. Irwin says:—From a recently-published Parliamentary Report may be ascertained the following facts:—During the six months ending June 30, 1882, 108 steamships (of which 104 were British) carried emigrants from Great Britain to the United States and Canada. These vessels were upon different voyages under the *full* "medical charge" of no less than 141 different

MORE ABOUT KOLA NUT.—MESSRS. HEYMAN & PHILLIPS, of 15, Clifford-street, Bond-street, W., are grateful to the Editor of HEALTH for his interesting article in the issue of January 11th. The Kola Nut on sale, 2s. 9d. a box, from them or from all chemists. —[ADVT.]

PRIZE MEDAL NATIONAL HEALTH SOCIETY.—HOUGHTON & CO., Practical Plumbers, Inspect and Report on House Drainage. Improvements carried out with all the best and latest inventions. Estimates Free. 21, Sloane-terrace, S.W. Established 1863.—[ADVT.]

BARNES'S IMPERMEABLE OPIUM POULTICE, an effective and perfectly safe application for relief in neuralgia, gout, rheumatism, painful swellings, and lumbago. Prices by post 1s. 3d. and 2s. 5d. 1 and 2, Trevor-terrace, Knightsbridge, S.W.—[ADVT.]

medical officers — showing that 33 changes took place within that period. Of these 141 gentlemen, 8 possessed no qualification which would entitle them to practise in the United Kingdom; and 35 others held but one diploma; 29 as surgeon only, 3 as physician only, and 3 as apothecary only. Forty-six are reported as being but 25 years of age or under, and 19 as being but 23 years of age or under. Of the latter, 11 held but one qualification. Sixty-five would have been ineligible, through lack of the minimum professional qualification, for the most junior medical appointment in the Royal naval, military, poor-law, asylum, or prison services; and of the entire 141 medical officers thus entrusted with the care of so many thousand valuable lives, under circumstances of unequalled difficulty, *only* 27, *possessing any qualification as a physician and surgeon, had reached their* 30*th year.*

These facts need no comment. Certainly there could be no stronger justification of my repeated complaint that "medical officers, in the Atlantic emigration services, are appointed without due regard to age, professional qualification, experience, &c.," or of your own statement, that "Comparatively few medical officers, in every way suitable, can be found in the mercantile marine services."

Indian Courtship.—Mrs. H. S. Baird recites a bit of her own observation respecting Indian courtship half a century ago in Wisconsin. When a youth falls in love, he places himself a little way from the maiden's wigwam, wearing one blue and one red legging. He then plays in a minor strain an air upon the flute, pib-pi-gwan. If he is permitted to proceed, he knows that there are no objections to his addressing the loved one. If the parents have objections to him, he is informed that he is too noisy, &c. In the latter case he discontinues his serenades; in the former, the flute-playing gives place to visits, the father saluting and saying, "Come in friend; there is room for you;" upon which all the family give a sort of hitch-up, to make room for one more around the fire. The young man seats himself by the door and next to the daughter; as the eldest son and daughter always sit nearest the door, on each side of it. The lover then produces a few small pine-sticks, one of which he lights at the fire, and hands to the maiden. If she takes it, he is accepted; if she does not, but lets him hold it until it goes out, he is rejected. When the time arrives for them to be united, the parents of the young man bring valuable presents, such as furs, while the parents of the bride bring ornamental work. These are distributed among the friends. The bride is dressed by her sister-in-law, and conducted to her place in the wigwam to await alone the coming of her husband. In other cases, when father-right prevails, she goes to his home. A man can have as many wives as may be required to dress his game and carry it home.

Medical and Sanitary Exhibition, 1881.—Award of Merit.—Diabetes. Van Abbott's Gluten Bread, and all other suitable Foods for Diabetic Patients. Dietary Tables and Price Lists post-free on application. Van Abbott, 5, Princes-street, Cavendish-square, W.—Delicate Children and Adults Suffering from Nervous Depression. Van Abbott's Hypophosphite of Lime Biscuits, for Delicate Children, especially those suffering from Deficiency of Bone, Weak Joints, or Debility, and Adults suffering from Nervous Depression. Each Biscuit contains five grains of the Hypophosphite of Lime. "Quite free from disagreeable taste, and taken willingly by Children, and certainly provide an excellent means of administering this valuable compound. Our analysis proves the accuracy of the printed descriptions on the labels of the boxes. The Biscuits were suggested by Mr. W. Adams, of the Orthopædic and Great Northern Hospitals." — *Lancet*, Nov. 4, 1876.—Van Abbott, 5, Princes-street, Cavendish-square.—[Advt.]

The Family Circle

"The child is father of the man."—*Wordsworth.*
"In bringing up a child, think of its old age."—*Joubert.*

OUR USEFUL NOTE-BOOK.

"When found, make a note of."—*Captain Cuttle.*

Acid-proof Cement.—A cement which resists chlorine gas and vapours of acid is prepared by mixing the residues of the distillation of glycerin (which are sold in the market in form of a thick liquid) with dry, sifted clay to a plastic mass. About three parts of clay are required for one part of residue. Thus prepared, the cement is very resisting, and does not even lose its plastic properties, since the glycerin contained in it prevents its drying up at the temperatures usually existing in the chlorine or acid apparatus. This cement cannot be used where it will be exposed to atmospheric influences, since it will absorb moisture from the air.

Economical Soap.—The properties of soap and of silicate of soda possess great analogy. The combinations of weak acids possess a slightly alkaline reaction, their solutions being capable of forming an emulsion with fatty substances. These properties in common have led to the manufacture of cheap soaps, containing a large proportion of silicate of soda or soluble glass. Two processes may be employed: (1) the addition of a concentrated solution of silicate of soda to fatty or resinous soap; and (2) the saponification of fatty or resinous substances by alkaloids in the presence of silicate of soda. By either method a soap is obtained, suitable for all the uses to which ordinary soap has hitherto been applied, and at a much lower price, as silicate of soda is extremely cheap.

Impermeable Court Plaster without Silk.—Mix enough collodion with castor-oil to render it elastic when dry, the oil having profusely been rubbed with some zinc oxide. Into this mixture dip glass plates, and, after drying, redip and redry two or three times, or until a film of suitable thickness is obtained. Upon this paint the usual solution of isinglass to give it adhesiveness, and, after again drying, separate it from the glass.

Extract of Heliotrope.—Heliotropia, 1 part; Cologne-spirit, 100 parts. The odour may be improved by the addition of 0·1 of ambergris.

Tooth-powder.—(a) *Black:* Wood-charcoal, in fine powder, 28 parts; oyster-shell, 4 parts; orris-root, 4 parts; catechu, 2 parts; cinnamon, 2 parts; myrrh, 1 part. *Another:* Wood-charcoal, in fine powder, 4 parts; cinchona bark, in fine powder, 1 part; oil of cloves, q. s. (b) *Red:* Digest four to five drachms of powdered cochineal with a boiling-hot solution of 90 grains of pure carbonate of potassium in 2 fl. oz. of water; after several days, separate the liquid from the insoluble matter by pressing; triturate the liquid with a mixture of 16 oz. of powdered oyster-shells, 8 oz. of powdered cuttle-fish bone, 3 oz. of powdered orris-root, and 150 grains of burnt alum, and finally scent it with equal parts of oil of cloves and of bergamot. Or scent it with oil of peppermint, of which about 160 minims dissolved in 2 fl. oz. of alcohol may be incorporated with the powder. *Another:*—Cinchona, in fine powder, 4 parts; sandalwood, in fine powder, 8 parts; alum, in fine powder, 1 part; oil of cloves, oil of bergamot, equal parts, q. s. (c) *White:*—Cuttle-fish bone, in fine powder, 1 part; oyster-shell, in fine powder, 1 part; oil of peppermint or oil of sage, q. s.

Treatment of Burns.—A medical man writes:—Quite often I see formulas for the treatment of "burns." As I

have been burned all over my body, excepting the soles of my feet, upon which I stood while being burnt, so severely that twelve physicians said I could not live, you will see why I am so interested in such formulas. Please say from me that the free use of *soft soap* upon a fresh burn will remove the fire from the flesh *in less time than it takes to write these words.* If the burn be severe, after relief from the pain, use linseed oil, and then sift upon it wheat flour. When this is dried hard, repeat the oil and flour until a complete covering is obtained. Let this dry until it falls off, and a new skin will be formed without a scar. *This treatment leaves nothing more to be desired.*

To Administer Cod-Liver Oil, add to the dose thirty drops of sulphuric ether, and take both *cold.*

Insecticide for Plants.—Soft soap, 4; tobacco, 6; fusel oil, 5; Methylic alcohol, 20; water, sufficient to make 1,000 parts. Boil the tobacco with an equal weight of water for half an hour, replacing the water as it is dissipated on boiling. Then strain. Mix this liquid extract with the other ingredients, and add water enough to make 1,000 parts. Before use, the mixture is well shaken up, and then applied by means of a syringe throwing a fine spray to the affected plants. A rather dilute infusion of tobacco alone is likewise very effective for this purpose.

SEA-AIR IN TOWN.

By W. M. Williams, F.C.S.

If the theory propounded in the preceding note is correct, we may obtain one of the advantages, probably the chief advantage, of sea air in our homes in London, or any other great town, by simply filtering the air that enters the house.

This may be done by passing it through cotton-wool, which, as Tyndall has demonstrated, removes with remarkable efficiency all particles of suspended solid matter. If I am not mistaken, such filtering with cotton-wool is an element in one of the patented methods of ventilation that is commercially before the public.

There is, however, one objection to cotton-wool, viz., that it offers considerable resistance to the inflow, and in ordinary cases, where the difference of pressure which determines this is very small, this resistance may turn the scale and act as an effective obstruction.

Some years ago I made some experiments on the protection of plants from the mechanical deposits of town atmospheres, which deposition on their leaves is the chief cause of their stunted growth and untimely death (*see* "Science in Short Chapters," page 387). The material that I found the most effective is "scrim," or paper-hangers' canvas, a coarse, gauzy fabric, composed of fluffy fibres, the filaments of which fluff cross the interstices between the fibres, and act as remarkably efficient dust-stoppers. This material has the further advantage of being very cheap (it is retailed at about 3d. per square yard), and is so open as to be practically transparent, like wire gauze.

It may therefore be used by simply replacing a pane of glass in any window where its appearance is not seriously objectionable. In order to render it effective, it is necessary that the doors, window-sashes, and all other places of rival inlet be made to fit accurately, and that an outlet or upcast be created. This generally exists in ordinary chimneys.

The efficiency of such a strainer may be easily tested by examining its condition after it has been on duty during a week or so. In London it will be found richly begrimed on the outside, so much so, that in practically carrying out this method of filtration it is necessary that the scrim be strained on a movable frame, closely filling out the ventilating aperture, and that there should be a duplicate frame to replace that which must be removed from time to time for cleaning.

When my paper on this subject was finished, and about to be read at the Society of Arts, the late Mr. Le Neve Foster told me that something of the kind had been done at the Houses of Parliament, and he gave me an introduction to Mr. Prim, the engineer in charge of the ventilation arrangements. I found that, after many trials, he had settled down to use the same fabric as I had, and for nearly the same purpose, but that he has it wetted for cooling as well as filtering. I used it dry, and, after trying the Parliamentary system against my own, prefer it dry for ordinary use, *i.e.* where there is no special machinery, as in the Houses of Parliament, for forcing the air through the wetted canvas, which presents far more resistance than dry.

From the manner in which the light particles cling to the filaments, I conclude that a slight electrical excitation of the non-conducting fibre takes place by the friction of the air in passing through it. This may be proved by blowing through a piece of such material (well dried) with a pair of bellows, and then laying it on the plate of a gold leaf electrometer.

If I were living in the midst of London, Birmingham, Manchester, or any other large city, I would recklessly disfigure my premises by removing a pane of glass from the window of every room, or knocking a hole through the outer wall, and placing in the opening there created a frame of such scrim gauze, with a glass door for closing, or partially closing, it in extremely cold weather, and I believe that all the inmates would thereby escape *some* of the special ills that cockney flesh is heir to.—*Gentleman's Magazine.*

Mad Dogs.—The following notice has been issued by the Brown Institution. This disease occurs in dogs of all ages, and may appear at any season of the year. It is recognised by a change of demeanour of the dog, which becomes dejected, morose, inclined to roam, and anxious to hide itself. The animal gnaws at wood, stones, or any refuse which it sees, snaps at imaginary objects, and becomes unusually excited by strange or sudden noises. It rubs its throat with its paws, as if striving to get rid of some object lodged there; at the same time there is a more or less abundant flow of saliva from the mouth. The animal is, moreover, very readily excited, and barks with a peculiar harsh, strange cough. The dog will attack its master, or animals of any kind; but it is most easily roused to fury by the presence of other dogs. It is feared and shunned by healthy dogs, not only when it attacks them, but when the disease is in a very early stage. There is throughout the disease no dread of water. Before the tendency to bite shows itself the animal may be unusually affectionate to its master, licking his face and fawning upon him. In one form of the disease called "dumb madness," there is paralysis of the jaw, and therefore inability to bite. If a dog has shown any of the symptoms of madness mentioned above, or an unusual tendency to bite other animals, it should be at once loose-muzzled and securely chained up, but it is advisable that it should not be destroyed until it has been examined by some authority capable of determining whether the animal be rabid or not. Owners of dogs are warned of the danger they may incur by allowing their faces and hands (especially if scratched) to be licked by the animals, even if these show no sign of madness. All dog-bites should be immediately cleansed by suction and washing, and the wounds should be cauterised as soon as possible.

Healthy Houses

"A happy home must be a healthy home."—*Anon.*

DRAIN AND CLOSET CONSTRUCTION AND HEALTH.

By B. H. Thwaite, F.C.S., A.M. Inst. C.E., &c.

FIFTH PAPER.—THE CLOSET ARRANGEMENTS OF THE HOUSE.

Although the general adoption of the water-closet is of a comparatively recent date, yet it has a very ancient origin. The Romans, along with their magnificent water supply arrangements, utilised this most convenient of all forms of closets. Yet, with all its advantages of convenience, the water-closet, if imperfectly arranged, may become a source of great danger to health.

The position of the water-closet should be such that if its traps or appliances for preventing the passage of the sewer-gas become deranged, there shall be no possibility of the sewer-gas entering the house; and this necessary condition involves the condemnation of all internal positions for water-closets.

The most desirable position for a water-closet is in a projecting wing or tower built from the ground or supported by corbels built in the outside walls of the house, and connected by a short passage to the main structure, and having double doors, one opening immediately into the water-closet proper, the other fixed in the external wall of the house, and opening on to the connecting passage, which should be well ventilated. In towns, however, this desirable arrangement can rarely be obtained, and the alternative position for the water-closet is against the external walls of the house, as far as possible away from all store-closets, larders, &c., and it should open into a passage, lobby, or ante-room well ventilated. Its walls should be lined with some non-absorbent substance, which can be easily washed. Parian cement is an admirable material for this purpose. The doors of the closets should have in their lower panels horizontal louvred openings to admit air, which, by the inclination of the louvred boards, will be directed upwards, and the upper panels of the door should be glazed with ground glass. To effect a proper circulation of the air in the closet, a ventilating opening should be made either in the ceiling or in the wall just under it, and connected to a ventilating pipe which should ascend to a height of a few inches above the roof of the water-closet, and be capped with a simple non-blow-down cowl.

Each of the inlet and outlet openings should have an area of at least 36 in. Besides the glazed panels which will admit rays of artificial light at night from the passage or lobby, a small window should also be fixed in the wall of the closet, just under the level of the ceiling. The constructional arrangement of the water-closet apparatus should be simple; all the mechanical parts should be strong, and be based on the simplest principles of mechanics. Those closets in which the mechanical parts, however ingenious, are delicate and complicated, soon get out of order and become useless. The water flushing handle should, however, be nicely balanced, in order that it can be set in motion with the greatest ease. The basin should be formed of incorrodable material, such as highly vitrified and glazed stoneware, earthenware, or china. The latter is certainly the best; and it should have sloping sides.

In order to prevent the adherence of matter to the sides of the closet-basin (a very common, unsightly, and highly insanitary defect), the flushing arrangements should be as complete as possible. Effective flushing of a water-closet does not depend upon the duration of time that water is allowed to run through it, but upon the force and volume with which the water is discharged. Two gallons of water from a cistern, fixed at least a distance of 10 ft. above the closet-basin (the water passing into the latter by means of a supply pipe having a $1\frac{1}{4}$ in. bore) is the minimum quantity allowable for effectual flushing.

It will be evident to the reader that the higher the water-closet cistern is above the basin, the greater the head or pressure of water, and the more effectual its flushing action. There should always be left in the basin of the water-closet, after the passage through it of the volume of water for flushing, a depth of at least $1\frac{1}{4}$ in. of water, to assist lubrication and promote condensation of the effete matters, watery vapour, &c.

The water-closet should, on no condition, be supplied with water from the cistern containing water for household purposes, but it should have its own independent cistern. Too much importance cannot be placed on this last condition.

In order to prevent waste of water during the flushing operation, several excellent and ingenious contrivances have been invented. Amongst them is Messrs. Tyler's very ingenious Waste-Not Regulator-Valve, which is fixed in close proximity with the seat of the water-closet, and can be attached to a clever foot-pedal arrangement (Terry's patent) by which the user can open the Waste-Not Regulator-Valve with the least pressure of his foot.

Lately, however, the vacuum or syphonic principle of the syphon flushing-tank for drains (and described in a former article) has been applied to water-closet cisterns. By this arrangement, in combination with a ball or float-cock, the water in the cistern is replenished immediately it becomes empty.

The cistern contains a sufficient quantity of water to produce effective flushing, and is simple, cheap, and far more reliable than any other description of waste-not water-closet cistern. It can be obtained of Messrs. Bolding & Sons, or of Messrs. Doulton, of London. So much and general condemnation has been bestowed upon what is known as the D and Hopper closet, that it is only necessary to repeat here that the former description of closet, which consists of a lead trap, resembling in its shape the letter D, and connected to the water-closet basin by a small lead pipe, is very imperfect, and certainly should not be used, as the D trap in a short time becomes filled up with waste matters. The Hopper closet, however, hardly deserves such a wide condemnation; indeed, it has been found to give satisfaction when fixed externally, and where there was a large quantity of water for flushing; but the untrapped Hopper closet should certainly not be used for any indoor position.

The water for flushing should be distributed uniformly over the basin by means of a circular perforated flushing pipe fixed around the rim of the basin. This arrangement is adopted in Messrs. Tyler & Son's closets.

In Bostel's well-known "Brighton" water-closets the water is well distributed by means of a flushing-rim forming part of the closet basin. It may be mentioned here that the flushing pipe from the water-closet system should

Snelgrove's Governor Gas Burners.—Save quarter to half the gas bill. 15s. per dozen. Samples 18 stamps. Lists free.—60, Queen Victoria-street, E.C.; and of all Ironmongers.—[Advt.]

Dr. Nichols' Penny Vegetarian Cookery-Book.—Every household should possess this marvel of cheapness. Free for 1½d.—Nichols & Co., 23, Oxford-street, London, W.—[Advt.]

be so arranged that in frosty weather it can be easily and slowly emptied to prevent its becoming frozen up. This precaution will save much annoyance.

All indoor water-closet basins should be directly connected to a trap, in order to intercept the sewer-gas which may be ascending the soil-pipe. The water-closet basin and indispensable trap should be formed in one compact piece.

The trap should have a ventilating-pipe, in order to prevent its becoming unsealed by syphonic action. This ventilating-pipe should pass through the outside wall of the house into the open air, and not be connected to the soil-pipe. A movable plug should also be placed in the closet-trap, in order that its condition, and that of the pipe connecting it to the soil-pipe, can be examined.

In Bostel's "Brighton" closet, however, the position of the trap is so arranged that its condition can be examined by simply removing the covering lid. This is an advantageous arrangement.

In order to prevent the basin from overflowing, an overflow-pipe, emptying into the open air should be fixed at its highest level. All closets should be strongly cased in, and be provided with covering lids. The risers should be made movable, for the purpose of facilitating examination.

The closets of the following makers are in every way satisfactory:—Bostel's Brighton water-closet, Tyler's, Jennings', Doulton's, and Todd's closets; the National closet and Woodward's wash-out closet, as well as those of Banner, Buchan, and Underhay. But any other form of closet properly possessing the important characteristics just enumerated, should be equally satisfactory.

The connection of the water-closet trap to the soil-pipe should be as short, straight, and direct as possible. The soil-pipe should certainly be placed outside the wall of the house; if placed internally it should be encased in another pipe of larger diameter, in order that if the soil-pipe becomes corroded through by the corrosive action of the adherent matter, the sewer gas shall not escape into the house. The soil-pipes should also be placed in positions easily accessible for examination, and it should be at least 3 inches in diameter, and be continued at this full diameter up to the level of the ridge of the roof, and be surmounted with a simple non-blow-down cowl. The soil-pipe may be constructed either of lead, earthenware, or iron. This latter material should, however, be properly protected from corrosive influences, either by having its internal surface enamelled or otherwise protected. Iron for soil-pipes has certainly the advantage of strength over earthenware or lead; its great disadvantage being its liability to oxidation, which, in the presence of the adherent slime, is rapid and destructive, and soon produces a stoppage in, or leakage of, the soil-pipe.

At its foot the soil-pipe should be connected to the drain by means of a ventilated disconnecting trap, in the manner described in a former article. During frosty weather it is advisable to occasionally flush the soil-pipe with salted warm water; this will prevent it from becoming frozen up, and obviate this common source of great inconvenience. If the precautions and conditions given in this article are properly adhered to, this unfortunate, though in this form convenient, necessity of civilised life would be perfectly free from those dangers to health which are only too often, and with truth, attributed to it.

The most searching test for water-closets and soil-pipes is the utilisation of the pungent odours of the oil of peppermint applied as follows: Two persons are required to conduct the test; one carrying the oil of peppermint, the other acting as a detective inside the house. The oil should be poured down the soil-pipe at its summit above the roof, or wherever it can be poured into the soil-pipe externally, and if there are any leakages the odours of peppermint will soon find their way through them and silently proclaim their locality. The person who carries the oil should not enter the house during the test, lest he may carry the odours of the oil of peppermint along with him and make the work of leakage detection very difficult.

PURE WATER is such a vital necessity that, without it, illness is certain. None are more prone to the ill effects when impure than the young. To ensure a pure supply send a post-card to the LONDON AND GENERAL WATER PURIFYING COMPANY, LIMITED, 157, Strand, London, W.C., who will return particulars post free.—[ADVT.]

Jottings from the Journals

"Th' ingredients of health and long life are
Great temperance, open air,
Easy labour, little care."—*Sir Philip Sidney.*

THE ADULTERATION OF FOOD IN FRANCE.—The Director of the Paris Municipal Laboratory, M. Girard, under whose auspices much good and useful work is being performed in the way of exposing the multifarious forms of food-adulteration, reports that the skill and ingenuity displayed by fraudulent inventors would suffice to make their fortunes a dozen times over in any honest capacity. The chemical knowledge applied to the concoction of spurious foods and drinks is of a very high order, the latest thing being the manufacture of gooseberry jelly entirely from seaweed, there not being a particle of gooseberry in it. It is coloured with fuchsine or some similar material, and the flavour is given by a compound of five parts of acetic ether, four parts of tartaric acid, and one each of aldehyde and œnanthic acid. M. Girard gives also the composition of nine other chemical compounds for imitating the flavours of strawberry, pine-apple, melon, apple, pear, cherry, peach, apricot, and plum. Unfortunately, too, in the coarser and commoner forms of adulteration, quite as much activity is displayed. Flour is exposed to damp, so as to make it weigh heavier, the result being that the gluten is altered and rendered less fit for bread-making, and more liable to mould. Mineral products are often mixed with flour, such as lead, copper, zinc, sulphate of lime, and chalk. Of thirty-one specimens of flour examined at the laboratory only thirteen were found to be pure, a sample of which came from Rotterdam containing as much as 30 per cent. of plaster, while another held 30 per cent. of sulphate of barium.—*British Medical Journal.*

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INSECTS AS MEDICINE.—Mr. Colebrooke writes in *Land and Water* as follows:—With reference to your correspondent's letter on the use of insects in medicine, I would wish to quote some remarks by Sir Thos. Watson, the late celebrated physician:—"In the year 1760 a number of prisoners from the vanquished squadron of Thurot having been landed in the Isle of Man, Dr. Gillespie, who was practising there, found that many of the agues which came to prevail both among these prisoners and the inhabitants of the island obstinately resisted bark and such other remedies as he had recourse to. He was informed by an

MONEY SAVED.—Adopt CHAPPUIS' Daylight Reflectors, to supersede gas or lamp light during the day. They are universally used, from gentlemen's houses to workmen's shops or dwelling-places. (H.) Chappuis, patentee, 69, Fleet-street, London.—[ADVT.]

old French physician belonging to the squadron of the alleged efficacy of cobweb in certain forms of the disease. He therefore made trial of the cobweb, and found it answer admirably. He succeeded with it in more than sixty cases of different types in the Isle of Man, and he had further experience of its utility subsequently in Ayrshire. After this the same remedy was tested in the West Indies by Dr. Jackson, to whom Dr. Gillespie had recommended it. Dr. Jackson's observations were made in the hospital of the army depôt in the West Indies in 1801. Several cases of ague, in which bark and arsenic and other remedies had singly or alternately made either a very temporary impression or none at all, were selected for experiment. In four, two pills, containing each five grains of cobweb, were given at intervals of two hours, commencing six hours before the expected time of recurrence of the attack. The fit did not return. On subsequent trials it was found not only to arrest the course of agues, but to remove the various other symptoms connected with them. The web used was that of the black spider, so common in barns, stables, and cellars. Quinine in those days had not been discovered; but I can only say that, if I were so situated that I could get none, and were myself attacked with ague in this country, I would readily procure spiders' webs and swallow their pills. I have tried, but hitherto in vain, to get an analysis made of these webs. Scorpion oil was formerly used in medicine. I was not aware that the ladybird destroyed the *Aphis rosæ*, or rose louse; that it is the best friend to the hop grower by its destruction of the *Aphis humuli*, or hop fly, every one knows, and for that purpose it was so created by Almighty wisdom, certainly not for the cure of toothache or any other ache." P.S.—I may mention that spider's webs were much used formerly and externally in repressing hœmorrhage as a substitute for agaric. I have applied them when a boy to my own cut finger, and the flow of blood was immediately stanched.

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Safety in the House.—At a recent meeting of the National Health Society, a communication was received from Mr. George Shaw, Master of the Plumbers' Company, in response to a communication which had been addressed to him from the Society expressing the desire to co-operate with the Guild of Plumbers in promoting the systematic instruction, examination, and registration of plumbers. The Master of the Plumbers' Company intimates that the attention of the Guild is directed to this subject, and that methods of forwarding the desired object were under consideration, in which they would be glad of the co-operation of the National Health Society. In the previous year, the National Health Society had instituted a series of lectures to plumbers, which were attended by audiences so large that the course had to be repeated, and a subsequent examination was held, which included the testing of practical work done by plumbers. This was conducted by Mr. George Shaw and Mr. Ernest Turner. The result showed that while, on the one hand, plumbers were evidently very desirous of better instruction; on the other hand, their work was, in a great majority of instances, so defective, even among the picked men who appeared for examination, that only a small proportion of the prizes could be awarded, and very little of the work was of first-rate quality. Mr. Ernest Hart, the chairman of the National Health Society, read a paper at Liverpool on this subject, and will in the course of the season make a communication at the British Institute of Architects, with the view of securing the co-operation of that society also in this much-needed measure of sanitary reform.

Our Bookshelf

"Reading maketh a full man."—*Bacon.*

A USEFUL BOOK.

How to Arrest Infectious Diseases. By Edgar G. Barnes, M.D. (London: T. & A. Churchill.) 1883.

Of all modern problems, none is more important than that with which Dr. Barnes deals in this little manual. If, as the science of preventive medicine teaches us, it is possible to reduce the mortality from infectious diseases to a minimum not yet seen in our health-returns, and if, by the practice of ordinary precautions, these diseases may be prevented from spreading as they now do, it seems clear that information concerning their repression is amongst the most valuable knowledge that mankind can acquire. Dr. Barnes's book is of handy size, clearly written, and free from all technicalities. It covers the ground already taken up in the earlier parts of Health by our papers on "What to do when Fever Invades the House." The chapters in this book deal with "Infection and Disinfection," with "Precautions during the progress of Infectious Disease, and with the use of Disinfectants." An important feature of the book is the section dealing with the legislation on this subject. From this chapter we take the following highly pertinent remarks:—

If a person, suffering from infectious disease, exposes himself in the street, or otherwise, to the danger of others, he is a nuisance, and indictable as such at common law; but proceedings by indictment are slow and expensive, and, therefore, this is a proceeding rarely had recourse to, the real check against wilful exposure of infected persons resting in the provisions of the Public Health Act, 1875, which I shall briefly recapitulate, referring the reader to the Act itself for more detailed information.

Section 120 runs thus:—"Where any local authority are of opinion, on the certificate of their medical officer of health, or of any other legally-qualified medical practitioner, that the cleansing and disinfecting of any house, or part thereof, and of any articles therein likely to retain infection, would tend to prevent or check infectious disease, it shall be the duty of such authority to give notice in writing to the owner or occupier of such house, or part thereof, requiring him to cleanse and disinfect such house, or part thereof, and articles, within a time specified in such notice." A similar penalty is attached to disobedience, and a similar power of carrying out the necessary cleansing at the defaulter's expense is given; but the termination of the clause provides:—

"Where the owner or occupier of any such house, or part thereof, is from poverty or otherwise unable, in the opinion of the local authority, effectually to carry out the requirements of this section, such authority may, without enforcing such requirements on such owner or occupier, with his consent, cleanse and disinfect such house, or part thereof, and articles, and defray the expenses thereof."

Section 124 provides:—

"Where any suitable hospital or place for the reception of the sick is provided within the district of a local authority, or within a convenient distance of such district, any person who is suffering from any dangerous infectious disorder, and is without proper lodging or accommodation, or lodged in a room occupied by more than one family, or is on board any ship or vessel, may, on a certificate signed by a legally qualified medical practitioner, and with the consent of the superintending body of such hospital or place, be removed, by order of any justice, to such hospital or place at the cost of the local authority; and any person so suffering, who is lodged in any common lodging-house, may, with the like consent, and on a like certificate, be so removed by order of the local authority."

Sections 126 to 129, relating to wilful exposure of infected

The "Spécialité" Lime Juice, for family daily use throughout the year, has not the usual musty flavour; will not turn mouldy; may be obtained of Chemists and Grocers.—Feltoe & Sons, Albemarle-street, London, W.—[Advt.]

persons and things, disinfection of carriages, and letting infected houses, are so important that I quote them *in extenso* :—

"126. Any person who—

"(1) While suffering from any dangerous infectious disorder, wilfully* exposes himself without proper precautions against spreading the said disorder in any street, public place, shop, inn, or public conveyance, or enters any public conveyance without previously notifying to the owner, conductor, or driver thereof that he is so suffering; or

"(2) Being in charge of any person so suffering, so exposes such sufferer; or

"(3) Gives, lends, sells, transmits, or exposes, without previous disinfection, any bedding, clothing, rags, or other things which have been exposed to infection from any such disorder,

shall be liable to a penalty not exceeding five pounds; and a person who, while suffering from any such disorder, enters any public conveyance without previously notifying to the owner or driver that he is so suffering, shall, in addition, be ordered by the court to pay such owner and driver the amount of any loss and expense they may incur in carrying into effect the provisions of this Act with respect to disinfection of the conveyance.

"Provided that no proceedings under this section shall be taken against persons transmitting with proper precautions any bedding, clothing, rags, or other things for the purpose of having the same disinfected."

Another important means of effectually dealing with one infectious disease (small-pox) is contained in the Vaccination Laws, under which any child or person may be vaccinated at the public expense, on application to the public vaccinator of the district in which he resides, and any adult may claim re-vaccination if the available supply of lymph is sufficient for that purpose. Every child born in England is compelled to be vaccinated within three months of its birth, with the following exceptions :—

1. If the child be in such a state of health as not to be in a fit state for vaccination, it may be postponed by a certificate from a legally qualified medical practitioner, such certificate to be renewed every two months, until the child is fit to be vaccinated.

2. If the child be resident in a sparsely inhabited district in which the public vaccinations are performed only at stated intervals, say of three or six months, it is sufficient that the child be vaccinated at the first public vaccination after it has attained the age of three months.

3. If the child, having been unsuccessfully vaccinated at least three times by a legally qualified practitioner, be certified by such practitioner to be insusceptible to vaccination.

4. If the child have already suffered from small-pox.

It will thus be seen that the powers given to sanitary authorities in dealing with outbreaks of infectious disease are numerous and varied, but in some respects they are defective—*e.g.*, no power exists whereby a school in which infectious disease exists can be closed in order to prevent the spread of such disease. But is such a power desirable? I have already expressed my opinion as to the undesirability of breaking up schools which receive boarders; but is it equally undesirable to close day-schools? In my opinion, this depends entirely on the circumstances of the case, and I look upon the absence of such power as a decidedly injurious omission in the Public Health Act. My experience as a medical officer of health has led me to the conclusion that in these days of compulsory education, school attendance is often the means of propagating an infectious disease. The contact of children in school is so close, and for several hours daily they are together in a somewhat confined atmosphere, that if infection be present, it is almost sure to spread. My advice is then to exclude from attendance at school, all children who are suffering, or have suffered, from infectious disease, and all who reside in the same house with them, and to continue this exclusion in the case of children of the poorer class, in whom proper disinfection cannot usually be relied on, until a fortnight has expired longer than the periods mentioned in Chapter III., as those during which infection continues; and this process of exclusion should be carefully carried out so long as only few cases occur, but that if after so doing the disease continues to spread, and there is reason to suppose that slight cases may have been overlooked and allowed to continue attendance, then it is advisable to close the school entirely.

This omission in the Public Health Act has been remedied, so far as public elementary schools are concerned, by a regulation contained in the Code of the Committee of the Privy Council on Education; but as regards schools not under Government inspection, it appears the sanitary authorities are powerless. This regulation makes it a condition of a grant being given to a public elementary school, that "the managers must comply with any notice of the sanitary authority of the district in which the school is situated, requiring them, for a specified time, with a view to preventing the spread of disease, either to close the school, or to exclude any scholars from attendance, subject to an appeal to the department, if the managers consider the notice to be unreasonable."

Dr. Barnes's book is a safe and handy guide to a knowledge, not merely of the treatment of infectious diseases by the householder in respect of their isolation, but of the laws which have been framed for the due regulation of the public health in this all-important matter.

* *i.e.*, knowingly.

A MEDICAL DIRECTORY.

The Medical Annual and Practitioners' Index for 1883–84. (London : H. Kimpton, 82, High Holborn.)

THIS is a handy year-book, wherein the busy medical man, as well as the intelligent layman, will find much information respecting the progress of the science of healing. It contains a large amount of useful details, and forms a complete medical directory in one sense. Thus, for example, we find included in its contents a list of nursing institutions, hospitals, health-resorts (British and foreign), private and public asylums, &c. The book would have been rendered still more valuable had it contained a diary or blank pages in which memoranda could have been preserved.

A HANDBOOK OF HEALTH SCIENCE.

A Handbook of Hygiene and Sanitary Science. By GEORGE WILSON, M.D., F.R.S.E., &c. Fifth edition, enlarged and carefully Revised. (London : T. & A. Churchill.) 1883.

To accord even a single word of praise to this admirable handbook of hygiene is absolutely needless. Dr. Wilson's book has reached its fifth edition, and in its full and complete history of all details connected with health-measures, the prevention of disease, vital statistics, and sanitary legislation stands unrivalled. We have frequently been asked by readers of HEALTH to recommend them a work as a textbook for the examinations of the Science and Art Department in Hygiene. It has invariably been our practice to include this work in our list of authorities, and our selection is justified not merely by the well-known ability and high standing of the author as a sanitarian, but also by the clear and interesting manner in which his information is conveyed. The book may be regarded as the most convenient and authoritative manual which sanitary inspectors and all interested in health science can possess. It has come to rank among the standard works on health science, and the high place it occupies in scientific estimation is fully justified by the accuracy of its details and by the extent of the information it conveys. The reader anxious to ascertain details connected with any health-topic varying from ventilation to sewage disposal, and from disinfection to water-supply or vital statistics, cannot possibly consult a better or cheaper work than that under review.

OPIUM IN SAN FRANCISCO.—Every Oriental steamer brings in about a quarter of a million in opium, and, as none goes East, it is estimated that the stock on hand by July 1, when the advance in duty goes into effect, will be four millions. All the Chinese dealers carry big stocks, but the bulk of this opium is in the banks. The bankers regard it as all good, and loan three-fourths of its value on it. Not less than 2,000,000 dols. in opium, in neat 40-lb. boxes, is now in local bank vaults. The Chinese put no faith in warehouses, as they fear tampering with opium.

Sanitary Appliances, Etc.

THE ALBO-CARBON LIGHT.

We have been highly interested in the examination of this useful and, from a sanitary point of view, important invention, which seems well-adapted in every way to increase the brilliancy of gas, and to reduce the cost of gas bills in a remarkable degree. The "Albo-Carbon" system consists in the application to each light of a metal chamber (see Fig. 1) placed near the burner attached thereto, and containing a material called "albo-carbon," which is a form of white carbon as pure as can be obtained. Through this chamber and substance the gas passes, and is duly vaporised, with the result that the illuminating power of the gas is increased at least two-fold, and in some cases even four or five-fold. The material used is *absolutely safe*. It cannot explode or become dangerous in any way; it is easily renewed, and leaves no residuum. According to the consumption of gas, the renewal may require to be made from once a week to a longer period. As showing what may be done with the "Albo Carbon" system—which, it may be added, can be adjusted easily and quickly by any gasfitter to existing gas-brackets—1,000 cubic feet of gas will give illuminating power equal to 3,000 cubic feet. If, therefore, 1,000 cubic feet of gas cost 4s., a consumer using the "Albo-Carbon" lights may obtain for 5s. 9d.—the 1s. 9d. being the original cost of the material—illumination equal at the ordinary rate to 12s. cost. The generators hold "Albo-Carbon" sufficient for a period varying from twenty to forty hours' burning, and very elegant designs in brackets, &c., are manufactured for this system of illumination. The plain No. 2 burner (Fig. 1), with regulator, in bronzed material, costs 8s. 6d.; with opal globe, 11s.; and cut-glass globe, 12s.; while the cluster-light generators (Fig. 2) may be had at equally moderate prices. Full information and all details can be had from the "Albo-Carbon" Light Company, 132, Horseferry-road, Westminster, London, S.W.

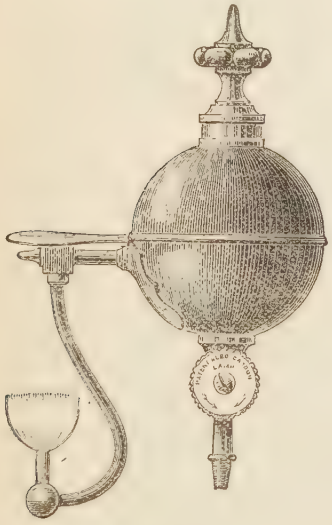

Fig. 1.

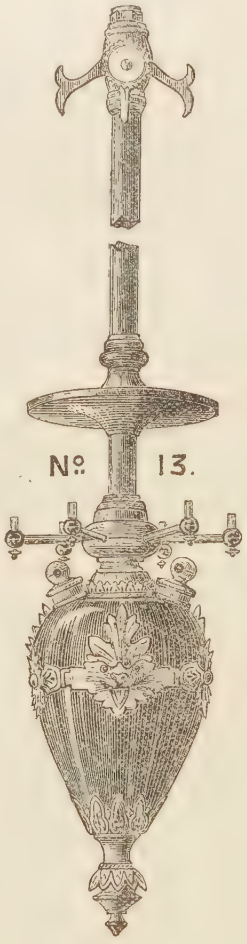

Fig. 2.

BATEMAN'S MAGNETIC HAIR-BRUSH.

We have received a specimen of this brush, which we can recommend as a pleasant brush for ladies' use, the wires being long and flexible. There is, however, no especial virtue in its "magnetic" properties, as shown in our electrical articles. The application of magnetism in such a form to the skin or hair is practically inappreciable.

Our Letter : Box

"Conference [maketh] a ready man."—*Bacon.*

NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including specimens of Sanitary Appliances, &c.), to be addressed to "The Editor of Health," 74-76, Great Queen-street, London, W.C. Those intended for the Publishing Office to be sent to "The Publisher," at the same address.

Correspondents are requested to write on one side of the paper only The Editor disclaims responsibility for the opinions expressed by Correspondents.

LETTERS TO THE EDITOR.

DR. MORTIMER GRANVILLE'S "NIGHTCAP AND DREAM" THEORY.

Sir,—It would be well if Dr. Mortimer Granville accepted your offer of space to explain his views on the nightcap, sleep, and dreams, for the explanations he gives in his letter of January 4 are by no means lucid, and his physiological statements are open to grave question.

He considers that if the head proper is exposed to a low temperature, "the result must be to contract the vessels of the temporal region, face, and scalp generally, thus delivering more than the due share of blood which comes through the common or carotid artery to the internal carotid, at least on the side of the head that is uppermost."

It appears to me that in this statement he ignores the influence of the nervous system in regulating the blood-flow to different parts of the body. It is certainly true that contraction of an artery leads to diminished flow through the artery itself, and to increased flow through other arteries, while at the same time the general arterial pressure is increased owing to the increased peripheral resistance.

The regulative influence of the vaso-motor nerve fibres comes into play, however, to prevent the general blood-pressure from rising too high, the increased blood-pressure itself exciting the inhibitory centres of the vagus, and thus diminishing the cardiac contractions and preventing over-distention of the arteries. Again, it must not be forgotten that the application of cold to the head may, by reflex action, cause *contraction* of the blood-vessels of the brain. On this principle we apply cold to the head in certain cases of cerebral hæmorrhage. The reflex change in a part is often of the same nature as the local change which induces it. For example, disease of one eye often causes disease of a similar nature in the other eye by reflex vaso-motor action. Also, a reflex contraction of the vessels of the skin of one hand is produced if the other hand is placed in cold water.

I do not agree, therefore, with Dr. Mortimer Granville, that the action of cold air on the head, by causing contraction of the arteries, drives the blood from the surface to the brain. In the first place, it is doubtful if the diminished temperature of the atmosphere during the night is sufficient to produce active change in the calibre of the arteries of the head; and I strongly question Dr. Granville's assertion that exposure to the cold air contracts such vessels as the carotids. In the second place, a temperature sufficiently low to produce contraction of the scalp-vessels would more probably produce a reflex contraction of the vessels of the brain.—Yours, &c.,

Medicus.

Sir,—Will you permit me to ask Dr. Granville for information on one point involved in his theory of dreams and nightcaps? I have always understood that during sleep the brain is comparatively bloodless as compared with its waking and active condition. Mr. Durham's observations, as well as those of other physiologists, show that the brain grows paler during sleep. Now, the effect of wearing a nightcap, if Dr. Granville's theory be correct, should be to supply more warmth to the brain than (in the case of persons who are not accustomed to their use) is usual. According to ordinary (and, I believe, physiological notions of things), additional warmth to the head must mean more active circulation in the brain—assuming Dr. Granville's own views about the effect of heat and cold to be correct. An active circulation must, in its turn, imply activity of function; hence, it seems clear that the use of the nightcap should favour dreaming! If personal testimony is worth anything to Dr. Granville, I may add that I have tried of late the experiment of sleeping with a nightcap. The nights when my cranium has been so encompassed have been full of dreams, and rather disturbed. I always sleep most naturally when, as hitherto, I have my head uncovered.—I am, sir, yours, &c.,

London, Jan. 10, 1884. A Layman.

COTTAGE HOSPITALS.

SIR,—Could you, or any of your readers, inform me if the following regulation exists in any cottage hospitals in which there are twelve to sixteen beds—viz., a physician, whose duty it is to take charge of the sanitary condition of the hospital, and have under his care all medical cases not having any ordinary attendant; a surgeon whose duty it is to have all surgical cases not having a regular attendant; an assistant surgeon to take the place of the surgeon in absence, to act as superintendent, and to do the work generally devolving upon that official; the general medical staff to consist of all qualified practitioners in the district?—Yours, &c.,

M.D.

QUERIES AND ANSWERS.

GENERAL.

ALEXIS.—See page 24, Vol. II., HEALTH.

INTERESTED.—Not at present. The topic has been widely discussed elsewhere.

E. B.—1. The phenomenon you mention of "sudden shock" when falling asleep is simply a muscular, spasmodic, and involuntary act, produced by some action of the central nervous ganglia—difficult to explain, but analagous to the "start" of every-day life. 2. Awakening at a given hour determined beforehand is allied to the "expectant attention" of physiologists, whereby a given result is often in waking life "unconsciously" arrived at by ordinary thought being given to it. 3. We do not know that dreaming is most frequent when the sleeper lies on his back. That is exactly the point at issue. There is nothing specially known regarding the influence of position in dreaming.

VOX.—See Gordon Holmes on "Voice Production" (Chatto & Windus.).

B. C.—1. Club moss. 2. Mares' tails. 3. An extinct plant.

A. E.—Order of the publishers.

L.R.C.S.I.—1. Apply to the secretaries or managers of any of the companies owning the ships you desire to sail in. 2. Salary varies; a commission per head is often paid on emigrants. 3. Outfit will best be determined according to the voyage. All information may be had from any respectable outfitter.

JAS. JOHNSTONE.—1. For full information see Huxley's "Crayfish." They are best caught in nets baited with fish. 2. Yes, the books you name are all good; but you will find "The Cat" somewhat technical. Huxley's "Crayfish" is readable and interesting, and Professor Marshall's "Physiology" is a good introduction.

A STUDENT OF MEDICINE.—Thanks for the pamphlets. We had seen them before. They are capital examples of "quack" literature.

A POOR CREATURE.—For warming one room—The "Calorigen," manufactured by Farwig & Co., 36, Queen-street, Cheapside, E.C. Price, to burn coal, £6, 6s.; gas or oil, £3. 3s. For warming a whole house—The apparatus made by Pitts & Co., Albion Ironworks, Stanningley, near Leeds. Price, about £15, I think. A letter to either address will bring diagrams and full particulars by return of post.

OLO.—See "Notes by the Way," present number.

GRUYÈRE.—The cavities in the cheese are produced by the gases arising during the fermentation and allied processes which the cheese undergoes in its manufacture. Probably carbonic dioxide and other gases.

SANITARY.

CHEMICAL.—From alkali works the gas chiefly emitted is hydrochloric acid. Highly destructive to plants.

AUSTIN.—Professor Clark's process is a modification of the Clark process for purifying water without filtration.

A. G. C.—Desagniliers practised ventilation by "propulsion" in 1734. A fan was enclosed in a box and was worked by a power of any kind.

B. O. N.—McKinnell's ventilators would suit your church. See description of Buchan's ventilators in HEALTH, No. 40.

AGLAUS.—You are in the wrong. Better pay a moderate amount and save further trouble.

TOM.—See statistics we already noted to you.

MEDICAL.

G. JOHNSON.—No need to consult specialists in such a case. See and follow advice to "J. R." (Glasgow) in HEALTH, No. 39.

E. W. R.—See advice to "G. Johnson" above.

ORIENT.—See and follow advice to "W. C. GOULD," for acne or blackheads in HEALTH, No. 40. For the pimples take the lime pills ordered to "X. Y. Z.," in present number.

WHITE ROCK.—1. Try the effect of applying zinc ointment to the affected part. If not better, write again. 2. Clothe the children warmly, and administer to each all winter either the cod-liver oil cream of Mr. Thomson, chemist, Dublin-street, Edinburgh (which young children take readily), or give plenty of fatty foods, such as ordinary cream or glycerine, &c.

MILLICENT MOORE.—Not safe to resume the cold bath. Try the tepid bath, and resume the cold in early summer. You might try cold sponging to the chest alone as an experiment, with rapid friction afterwards.

H. T. W.—Yes; We think with time and care you will improve. In your case, we should say, you would benefit most from a course of carefully regulated liquid foods (Brand's "Essences," &c.) Benger's food is well adapted for you. We should think sweet milk should do well as a primary article of diet. For the acidity, you might try the following:—Carbonate of ammonia, one drachm; bicarbonate of potass, one and a half drachms; infusion of chiretta, six ounces. A tablespoonful thrice daily before food. Give up the aperient for once.

PAUL.—We do not know the society you name, but its prospectuses and pretensions are not in its favour.

LIBER.—You seem well in your health, and appear to be troubled more by imaginary than real ailments. Live plainly; stop taking the tonic; trust to your cold baths, and, above all, keep cheerful. You suffer from no disease, and only require a little time and attention to your health to get quite well.

W. S.—Yes; the tonic you name is a good one, and may do good. In such a case as that you mention we should advise a thorough change of scene. Try the seaside for a time.

PATER.—Try a vegetable dietary by all means. Yours is precisely one of the cases which are well adapted for such a diet, and by giving it a trial you may obviate all necessity for taking medicine of any kind.

W. H. S.—See advice in No. 39 HEALTH to "J. R." (Glasgow.)

A. B. C.—What you name is quite common in most healthy persons. You are not ill in any way, and only quacks would so persuade you. Don't be alarmed; use cold sponging, and sleep on a hard mattress.

KILMARNOCK.—The case you name is one for a consultation with a good Glasgow oculist and physician. Don't delay; as all the conditions you refer to require a personal examination of the patient for their determination.

W. G. H.—No; you will get as good an opinion in Edinburgh or London as in Paris. If you desire it, we can send you addresses (on receipt of stamped addressed envelope) of reliable authorities. Don't incur expense of a visit to Paris; it is not needed.

C. MOON.—See advice to "Pater" above.

C. RYAN.—See advice to "A. B. C." above; and read, and if necessary, follow advice to "J. R." (Glasgow) in HEALTH, No. 39. You are quite well. Don't be persuaded otherwise, for you need no treatment; unless, indeed, what you name occurs more frequently than now.

JOHN MOORE.—In such a case as yours we should recommend first, a change of air, to a bracing seaside locality; second, cod-liver oil, taken in dessert-spoonful doses thrice daily, after food; thirdly, inhalation (by the nose) of the steam arising from a pint of water (at 150 degs. Fahr. heat), into which a teaspoonful of the following mixture has been put: Oil of pine, two drachms; heavy carbonate of magnesia, one drachm; water to make up three ounces. To the cod-liver oil above named, we would recommend you to have a little syrup of iodide of iron added.

X. Y. Z.—1. Take the tonic recommended to "Hope," in HEALTH No. 40 for a time, as a cure for the slight weakness you name. 2. For pimples try lime pills as follows:—Sulphide of lime, 2 grains; sugar of milk, 40 grains—make into 20 pills, and take one every two hours. 3. No effectual removal of hairs save by electricity, and this remedy can only be applied by a surgeon skilled in hair diseases. 4. All exercise before breakfast should be of a light kind. Dumb-bells of moderate weight should suit you, and should be used after your bath. 5. Hot bath twice a week. Depends on amount of skin excretion. Once a week change at least.

AMY SNELL.—You should see a physician, as only a medical opinion given after examination of your case is likely to satisfy you. We do not think there is much or anything wrong, but a medical opinion will reassure you. Don't give way to morbid fears.

J. MURPHY.—1. The case is probably one of either chronic catarrh or bronchitis. It does not, from your account, however, appear to be of severe character. Attend carefully to warmth and clothing, and give nourishing food. You might try the following when the cough is troublesome:—Carbonate of ammonia, half a drachm; spirit of chloroform, one and a half drachms; infusion of senega to make up eight ounces. Two tablespoonfuls every four hours. 2. We think you will best arrive at the information you want by consulting some good textbook of physiology (such as Kirke's), where

the subject of food is treated. The quantities of food required to sustain a man in health vary with the work, habits, temperament, &c., of the individual. Why not give vegetarianism a trial?

JOSEPH BROWN.—The lotion you inquire about is useful in all cases where there is severe itching of the skin. Soak the scalp and crusts in warm water, and apply zinc ointment with the finger, covering the head with a skull-cap of linen. Give cod-liver oil or the emulsion internally. If not better, write again.

NEMO.—In the case to which you refer, you should obtain a wise surgical opinion as to whether or not it would be advisable for your relative to submit to the operation you name. The ailment is a constant source of weakness and loss of blood; and we think we are advising you most trustworthily in counselling you to seriously consider the advisability of an operation. We shall be glad, if desired, to forward to you (on receipt of stamped addressed envelope) the names of reliable surgeons.

ELDER LEE.—Try the effect of applying a little zinc ointment night and morning to the eruption you name. If not cured soon, write again. The dose of the mineral water is about half a tumbler; but varies with circumstances of patient's health, &c.

PENITENT.—You must practise self-denial, and be mentally strong, otherwise you will most certainly fall into ill-health. You need fear no effects at present; and your best remedies are active open-air exercise and cold sponging each morning. Steer clear of quacks.

LONDON.—Thanks for your kind letter. When the London lectures are repeated, your suggestion will be duly considered. The advertising arrangements you refer to are rendered necessary for a time at least.

R. GERNER.—If you forward the manuscript according to the rules stated in our "Notices to Contributors," we will inform you whether or not it is suitable for HEALTH.

G. B.—Under what circumstances is the "hair" you speak of brought up from the stomach? Give us a full account of the case, and we will advise you. If bitten off from the head, and swallowed (as is likely to be the case), you must see carefully to the patient's habits.

LOUGHBOROUGH.—See advice for acne given to "W. C. Gould" in No. 40, HEALTH.

DELTA.—We have heard of the experiment to which you refer. See "Notes by the Way" in present number.

ELLIPSIS.—Apply to a good surgical mechanician or instrument-maker, who will advise you regarding the best form of apparatus; but, in our opinion, you need rather prolonged rest, and we believe the true explanation of the benefit you derive from country residence is that your general health improves there, and affects the knees. We should advise a prolonged stay in the country.

LEX.—You might be the better of a tonic. Try, for a short time, that recommended to "Hope," in HEALTH, No. 40. By strict attention to your general health the nervousness should disappear. Avoid all stimulants.

SACKCLOTH.—If you attend carefully to your general health you will avoid catching cold so readily as you do now. When the cold comes on try sniffing up the steam of a pint of hot water to which ten drops of tincture of iodine have been added. The cold bath in the morning should aid you in resisting cold. Don't continue the tonic longer than you require it.

B. WELLS.—1. We prefer giving the Hypophosphites about half an hour or so before meals. It stimulates the appetite. 2. Consult an aural surgeon. There may be wax in the ears.

J. LUCAS.—1. Read advice to "A Poor Man," in HEALTH, No. 37. 2. Try the lime pills for pimples, ordered to "X. Y. Z." above. 3. Careful regulation of diet, rest after food, and avoidance of vegetables. 4. Too much or forcible syringing is bad for the drum of the ear. 5. *All* "fluids" are prohibited in the special cases to which you refer—water included.

THOMAS.—A sea voyage is not necessary except in cases where some special disease (usually of lungs) exists. There is no evidence in your case we presume that any such condition is present. See and follow advice given to "J. R." (Glasgow), in No. 39 HEALTH, and you will get quite well.

AN AMERICAN.—The case is one for careful examination by a physician skilled in nervous diseases. The cause of the attacks may be a simple one, but you will be the better for good advice in any case. We can send you address (on receipt of stamped envelope) of a reliable London authority if desired.

PES.—We should advise you to see a professional chiropodist, who will extract the corn or callosity without pain and effectively. No local applications are of service in your case.

ACHILLES.—In your case mere inhalations are of little value. Practise them at night, however. What you require is (1) a course of tonic medicine, such as that recommended to "Hope" in No. 40, HEALTH; (2) a visit for some weeks to a bracing seaside place (*e.g.* Yarmouth or Essex coast generally), or a sea voyage. Chronic catarrh is often alone cured by a visit to the sea. Try sniffing the vapour of sulphurous (*not* sulphuric) acid, kept in a stoppered bottle.

MARY HAROLD.—See advice to "Pes" above. Wash the feet frequently in a solution of alum and water, but remember also to look to your general health.

SPES.—See and follow advice to "Styx," in HEALTH, No. 40, and, above all, don't be morbid.

S. W. P.—See advice to "Spes," above. At your age, remember, however, you must husband your strength, and avoid all approach to what, though not excess in a younger person, will be excess in your case.

RUTHERGLEN.—You are evidently a highly nervous person. Learn, first of all, that health is the foundation of all mental and physical happiness, and that religion can never be thoroughly appreciated by an unhealthy man. Read and follow the advice given to "H. C. E.," in No. 40, HEALTH. Yours is simply a case for wise and careful diet-treatment, and all your symptoms, as you have already been told, arise from feeble digestion, and not from any more serious cause.

X. Y. Z. (Edinburgh).—Yes: there are several doctors in your city who make skin diseases a study. We shall be glad to send you addresses on receipt of stamped addressed envelope.

INTERROGATOR.—See and follow (in the case you name) advice to "H. C. E.," in No. 40, HEALTH. It is a case for wise dietetic treatment, and the avoidance of all solid indigestible foods. Glad to be of any further service, if necessary.

FRED.—1. Take more open-air exercise. 2. Take a little "Æsculap Water" occasionally, in the mornings, as a mild aperient. 3. Avoid tea and coffee and all stimulants; and see the effect of the following:—Carbonate of ammonia, one drachm; bicarbonate of potass, one and a half drachm; infusion of chiretta, six ounces. A tablespoonful thrice daily before food. Let us hear how you are in a few days.

D. R. GIBSON.—Try the following, to be rubbed into hair roots night and morning:—Balsalm of Tolu, 2 drachms; oil of rosemary, 20 minims; tincture of cantharides, 1 drachm; castor-oil, ½ oz.; prepared lard, 1½ oz. Wash the hair once or twice a week with "Pears' Soap" and lukewarm water. If not better, write again.

SPIKENARD.—You are morbidly excited. We should advise you to see a surgeon, and have the structure to which you refer placed in its normal state. The state in which you describe it to be at present, is probably responsible for all the irritation to which you are subject.

J. N.—Give up tea and coffee; live plainly; avoid vegetables for a time, and take the following:—Powder of rhubarb, 4 grains; pepsine, 3 grains. Mix, and make a powder. One to be taken after a meal.

MALADE.—Don't be morbid. See and follow advice to "Styx" in No. 40, HEALTH.

X. Y. Z.—See advice to "Malade" above. If you don't and can't exert your moral control, what is the use of asking our advice? You know as well as we do that you are injuring your health. The remedy is simple—remove the cause. Your symptoms are all exaggerated in your eyes.

CANTON.—Yours is a case simply for improvement in your general health. You exaggerate your symptoms, probably unconsciously. Attend to what was said to "Styx" in No. 40, HEALTH, and follow directions there given. So long as your digestion is in good order you are by no means ill.

J. A. D. E.—Rest after food, and look well to your digestion. Take a little Morson's "Pepsine" with your food, and, for the "pins and needles," see there is no pressure on the circulation, and use warm oil to rub into your hand.

A CONSTANT SUBSCRIBER (will please use in future a more distinctive name).—Your meat dinner is a mistake. (See article on "Meat Teas" in No. 40, HEALTH.) Give it up, and simply take pure water as a beverage, as you are an abstainer. You may assist digestion for a time by taking a little "Pepsine" with your food.

W. F. W.—So long as you do not feel languid and weak, don't be alarmed. Keep your general health right, and you need have no fear. What you name is only a little weakness of no great moment, and only an indication that you have need of a tonic for a short time.

R. SMITH.—See and follow advice to "H. C. E." in No. 40, HEALTH. Your troubles are largely (if not solely) of a digestive kind, and when these are improved the other symptoms will disappear. You are simply "out of sorts." Attend to advice above indicated.

H. T. W.—The Turkish bath is a general means of securing skin-action and of assisting excretion. It can only aid digestion in so far as it indirectly makes the skin, lungs, and kidneys act well and

[*Continued on page* 256.

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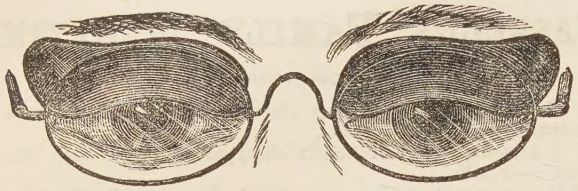

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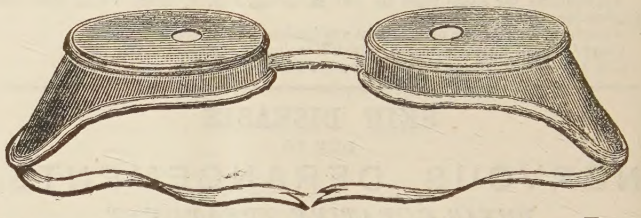

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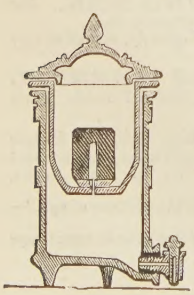

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